

WEST Search History

DATE: Monday, June 26, 2006

<u>Hide?</u>	<u>Set Name</u>	<u>Query</u>	<u>Hit Count</u>
		<i>DB=PGPB,USPT,DWPI; PLUR=NO; OP=ADJ</i>	
<input type="checkbox"/>	L13	L11 and (L9 same L8)	2
<input type="checkbox"/>	L12	L11 and (L9 with L8)	2
<input type="checkbox"/>	L11	L10 and (@pd<=20020529 or @ad<=20020529)	119
<input type="checkbox"/>	L10	L9 and L8	717
<input type="checkbox"/>	L9	siRNA or dsRNA or RNAi	6897
<input type="checkbox"/>	L8	(erbb2 or erb near b2) or neu or (her near 2) or her2	16074
		<i>DB=USPT; PLUR=NO; OP=ADJ</i>	
<input type="checkbox"/>	L7	5599704.pn.	1
		<i>DB=DWPI; PLUR=NO; OP=ADJ</i>	
<input type="checkbox"/>	L6	WO-200297114-A2.did.	1
<input type="checkbox"/>	L5	L4	0
		<i>DB=EPAB; PLUR=NO; OP=ADJ</i>	
<input type="checkbox"/>	L4	WO-200297114-A2.did.	0
		<i>DB=PGPB,USPT,DWPI; PLUR=NO; OP=ADJ</i>	
<input type="checkbox"/>	L3	WO 200297114	1
<input type="checkbox"/>	L2	WO0297114	0
<input type="checkbox"/>	L1	WO 0297114	0

END OF SEARCH HISTORY

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:sssptal635jxs

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * Welcome to STN International * * * * *

NEWS 1 Web Page URLs for STN Seminar Schedule - N. America
NEWS 2 "Ask CAS" for self-help around the clock
NEWS 3 FEB 27 New STN AnaVist pricing effective March 1, 2006
NEWS 4 APR 04 STN AnaVist \$500 visualization usage credit offered
NEWS 5 MAY 10 CA/CAPLUS enhanced with 1900-1906 U.S. patent records
NEWS 6 MAY 11 KOREAPAT updates resume
NEWS 7 MAY 19 Derwent World Patents Index to be reloaded and enhanced
NEWS 8 MAY 30 IPC 8 Rolled-up Core codes added to CA/CAPLUS and
USPATFULL/USPAT2
NEWS 9 MAY 30 The F-Term thesaurus is now available in CA/CAPLUS
NEWS 10 JUN 02 The first reclassification of IPC codes now complete in
INPADOC

NEWS EXPRESS FEBRUARY 15 CURRENT VERSION FOR WINDOWS IS V8.01a,
CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
AND CURRENT DISCOVER FILE IS DATED 19 DECEMBER 2005.
V8.0 AND V8.01 USERS CAN OBTAIN THE UPGRADE TO V8.01a AT
<http://download.cas.org/express/v8.0-Discover/>

NEWS HOURS STN Operating Hours Plus Help Desk Availability
NEWS LOGIN Welcome Banner and News Items
NEWS IPC8 For general information regarding STN implementation of IPC 8
NEWS X25 X.25 communication option no longer available after June 2006

Enter NEWS followed by the item number or name to see news on that specific topic.

All use of STN is subject to the provisions of the STN Customer agreement. Please note that this agreement limits use to scientific research. Use for software development or design or implementation of commercial gateways or other similar uses is prohibited and may result in loss of user privileges and other penalties.

* * * * * STN Columbus * * * * *

FILE 'HOME' ENTERED AT 11:07:48 ON 26 JUN 2006

=> FIL MEDLINE BIOSIS CA EMBASE SCISEARCH
COST IN U.S. DOLLARS

FULL ESTIMATED COST

SINCE FILE	TOTAL
ENTRY	SESSION
0.21	0.21

FILE 'MEDLINE' ENTERED AT 11:07:56 ON 26 JUN 2006

FILE 'BIOSIS' ENTERED AT 11:07:56 ON 26 JUN 2006
Copyright (c) 2006 The Thomson Corporation

FILE 'CA' ENTERED AT 11:07:56 ON 26 JUN 2006

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2006 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'EMBASE' ENTERED AT 11:07:56 ON 26 JUN 2006
Copyright (c) 2006 Elsevier B.V. All rights reserved.

FILE 'SCISEARCH' ENTERED AT 11:07:56 ON 26 JUN 2006
Copyright (c) 2006 The Thomson Corporation

=> s (erbb2 or erb near b2) or neu or (her near 2) or her2
L1 45129 (ERBB2 OR ERB NEAR B2) OR NEU OR (HER NEAR 2) OR HER2

=> s sirna or dsrna or rnai
L2 55337 SIRNA OR DSRNA OR RNAI

=> s l1 and l2
L3 229 L1 AND L2

=> s l3 and (py<=2002)
1 FILES SEARCHED...
L4 19 L3 AND (PY<=2002)

=> dup rem l4
PROCESSING COMPLETED FOR L4
L5 14 DUP REM L4 (5 DUPLICATES REMOVED)

=> d l5 ibib abs 1-14

L5 ANSWER 1 OF 14 CA COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 143:223605 CA
TITLE: RNA interference-mediated inhibition of EGFR
(epidermal growth factor receptor) gene expression
using siNA's (short interfering nucleic acids)
INVENTOR(S): McSwiggen, James; Beigelman, Leonid; Pavco, Pamela;
Fosnaugh, Kathy; Jamison, Sharon
PATENT ASSIGNEE(S): Sirna Therapeutics, Inc., USA
SOURCE: U.S. Pat. Appl. Publ., 368 pp., Cont.-in-part of Appl.
No. PCT/US04/016390.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 233
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005176024	A1	20050811	US 2004-923354	20040820
AU 9851819	A1	19980611	AU 1998-51819	19980112 <--
AU 729657	B2	20010208		
AU 9939188	A1	19990916	AU 1999-39188	19990713 <--
AU 769175	B2	20040115	AU 2000-56616	20000911
US 2003064945	A1	20030403	US 2001-916466	20010725
WO 2002094185	A2	20021128	WO 2002-US15876	20020520 <--
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,				
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,				
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,				
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,				
PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,				
UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH,				
CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR,				
BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
WO 2002097114	A2	20021205	WO 2002-US16840	20020529 <--

WO 2002097114	A3	20030508		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
US 2003105051	A1	20030605	US 2002-163552	20020606
US 2003170891	A1	20030911	US 2002-251117	20020919
US 2003186909	A1	20031002	US 2002-277494	20021021
WO 2003070912	A2	20030828	WO 2003-US5045	20030220
WO 2003070912	A3	20041111		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
WO 2003070918	A2	20030828	WO 2003-US5346	20030220
WO 2003070918	A3	20040708		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
WO 2003074654	A2	20030912	WO 2003-US5028	20030220
WO 2003074654	A3	20040205		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
US 2004110296	A1	20040610	US 2003-427160	20030430
US 2004192626	A1	20040930	US 2003-444853	20030523
US 2005080031	A1	20050414	US 2003-724270	20031126
US 2005233329	A1	20051020	US 2003-727780	20031203
US 2005020525	A1	20050127	US 2004-757803	20040114
US 2004249178	A1	20041209	US 2004-780447	20040213
US 2005032733	A1	20050210	US 2004-826966	20040416
WO 2005041859	A2	20050512	WO 2004-US13456	20040430
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			

RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
 AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
 EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,
 SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
 SN, TD, TG

WO 2005019453 A2 20050303 WO 2004-US16390 20040524
 WO 2005019453 A3 20050623

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
 CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
 GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
 LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
 NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
 TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
 AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
 EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,
 SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
 SN, TD, TG

PRIORITY APPLN. INFO.:

US 2001-292217P	P 20010518
US 2001-296249P	P 20010606
US 2001-306883P	P 20010720
US 2001-916466	B1 20010725
US 2001-311865P	P 20010813
US 2002-358580P	P 20020220
US 2002-362016P	P 20020306
US 2002-363124P	P 20020311
WO 2002-US15876	A2 20020520
WO 2002-US16840	A2 20020529
US 2002-163552	A2 20020606
US 2002-386782P	P 20020606
US 2002-393924P	P 20020703
US 2002-406784P	P 20020829
US 2002-408378P	P 20020905
US 2002-409293P	P 20020909
US 2002-251117	A2 20020919
US 2002-277494	B2 20021021
US 2003-440129P	P 20030115
WO 2003-US5028	A2 20030220
WO 2003-US5045	A2 20030220
WO 2003-US5346	A2 20030220
US 2003-427160	A2 20030430
US 2003-444853	A2 20030523
US 2003-693059	A2 20031023
US 2003-720448	A2 20031124
US 2003-724270	A2 20031126
US 2003-727780	A2 20031203
US 2004-757803	A2 20040114
US 2004-543480P	P 20040210
US 2004-780447	A2 20040213
US 2004-826966	A2 20040416
WO 2004-US13456	A2 20040430
WO 2004-US16390	A2 20040524
AU 1995-26422	A3 19950518
US 1996-623891	A 19960325
AU 1996-76662	A3 19961025
US 1997-36476P	P 19970131
US 1997-985162	A1 19971204
US 1999-401063	A2 19990922
US 2001-848754	A2 20010503
US 2001-294140P	P 20010529
US 2001-318471P	P 20010910
US 2002-157580	A2 20020529
US 2002-238700	A2 20020910
US 2003-417012	A1 20030416

US 2003-422704 A2 20030424
US 2003-652791 A2 20030829

AB This invention relates to compds. and methods useful for modulating EGFR gene (e.g., HER1, HER2, HER3, and/or HER4) expression by RNAi using siNA's. The siNA's may include siRNA and modified siRNA, double-stranded RNA, micro-RNA, and short hairpin RNA mols.. The siNA's may be used in the treatment of cancer. Thus, chemical modified siRNA's significantly reduced HER1 and HER2 gene expression in vitro in A549 (ovarian cancer) cells.

L5 ANSWER 2 OF 14 CA COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 142:386024 CA

TITLE: Nucleic acid treatment of diseases or conditions related to expression levels of RAS, HER2 and HIV genes

INVENTOR(S): McSwiggen, James

PATENT ASSIGNEE(S): Sirna Therapeutics, Inc., USA

SOURCE: U.S. Pat. Appl. Publ., 143 pp., Cont.-in-part of U.S. Ser. No. 693,059.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 233

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005080031	A1	20050414	US 2003-724270	20031126
AU 9851819	A1	19980611	AU 1998-51819	19980112 <--
AU 729657	B2	20010208		
AU 9939188	A1	19990916	AU 1999-39188	19990713 <--
AU 769175	B2	20040115	AU 2000-56616	20000911
WO 2002094185	A2	20021128	WO 2002-US15876	20020520 <--
W:				
AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
RW:				
GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
WO 2002097114	A2	20021205	WO 2002-US16840	20020529 <--
WO 2002097114	A3	20030508		
W:				
AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
RW:				
GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2003124513	A1	20030703	US 2002-157580	20020529
US 2003105051	A1	20030605	US 2002-163552	20020606
US 2003153521	A1	20030814	US 2002-238700	20020910
WO 2003070918	A2	20030828	WO 2003-US5346	20030220
WO 2003070918	A3	20040708		
W:				
AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ,				

	UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW		
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG		
WO 2003074654	A2	20030912	WO 2003-US5028 20030220
WO 2003074654	A3	20040205	
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW		
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG		
US 2004110296	A1	20040610	US 2003-427160 20030430
US 2004192626	A1	20040930	US 2003-444853 20030523
US 2005106726	A1	20050519	US 2003-652791 20030829
US 2005176024	A1	20050811	US 2004-923354 20040820
PRIORITY APPLN. INFO.:			US 2001-292217P P 20010518
			US 2001-294140P P 20010529
			US 2001-296249P P 20010606
			US 2001-306883P P 20010720
			US 2001-311865P P 20010813
			US 2001-318471P P 20010910
			US 2002-358580P P 20020220
			US 2002-362016P P 20020306
			US 2002-363124P P 20020311
			WO 2002-US15876 A2 20020520
			US 2002-157580 A2 20020529
			WO 2002-US16840 A2 20020529
			US 2002-163552 A2 20020606
			US 2002-386782P P 20020606
			US 2002-406784P P 20020829
			US 2002-408378P P 20020905
			US 2002-409293P P 20020909
			US 2002-238700 A2 20020910
			US 2003-440129P P 20030115
			WO 2003-US5028 A2 20030220
			WO 2003-US5346 A2 20030220
			US 2003-417012 B2 20030416
			US 2003-422704 B2 20030424
			US 2003-427160 A2 20030430
			US 2003-444853 A2 20030523
			US 2003-652791 A2 20030829
			US 2003-693059 A2 20031023
			AU 1995-26422 A3 19950518
			US 1996-623891 A 19960325
			AU 1996-76662 A3 19961025
			US 2001-916466 B1 20010725
			US 2002-393924P P 20020703
			US 2002-251117 A2 20020919
			US 2002-277494 B2 20021021
			WO 2003-US5045 A2 20030220
			US 2003-720448 A2 20031124
			US 2003-724270 A2 20031126
			US 2003-727780 A2 20031203
			US 2004-757803 A2 20040114
			US 2004-543480P P 20040210
			US 2004-780447 A2 20040213
			US 2004-826966 A2 20040416
			WO 2004-US13456 A2 20040430

AB The present invention relates to nucleic acid mols., including enzymic nucleic acid mols., that modulate the expression of Ras genes (such as K-RAS, H-RAS, and/or N-RAS), **HER2** gene, and HIV genes. Gene sequences of human c-Ki-ras2, c-Ha-ras1, and **HER2** genes and HIV-1 genes were screened for accessible sites using a computer-folding algorithm. DNazymes are designed for c-Ki-ras2, c-Ha-ras1, and **HER2**; for modulation of HIV-1 genes, the present invention provides DNazymes, hammerhead ribozymes, Inozymes, Zinzymes, Amberzymes, and other enzymic nucleic acids.

L5 ANSWER 3 OF 14 CA COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 142:183225 CA

TITLE: RNA interference-mediated inhibition of gene expression using chemically modified short interfering nucleic acids

INVENTOR(S): McSwiggen, James; Chowrira, Bharat; Beigelman, Leonid; Macejak, Dennis; Zinnen, Shawn; Pavco, Pamela; Haeberli, Peter; Morissey, David; Fosnaugh, Kathy; Jamison, Sharon; Usman, Nassim; Thompson, James; Vargeese, Chandra; Wang, Weimen; Chen, Tongqian; Vaish, Narendra

PATENT ASSIGNEE(S): Sirna Therapeutics, Inc., USA

SOURCE: U.S. Pat. Appl. Publ., 204 pp., Cont.-in-part of U.S. Ser. No. 720,448.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 233

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005020525	A1	20050127	US 2004-757803	20040114
AU 9851819	A1	19980611	AU 1998-51819	19980112 <--
AU 729657	B2	20010208		
AU 9939188	A1	19990916	AU 1999-39188	19990713 <--
AU 769175	B2	20040115	AU 2000-56616	20000911
US 2005096284	A1	20050505	US 2004-783128	20040220
US 2005014172	A1	20050120	US 2004-798090	20040311
US 2005048529	A1	20050303	US 2004-800487	20040315
WO 2004092383	A2	20041028	WO 2004-US11320	20040413
WO 2004092383	A3	20050210		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2005191638	A1	20050901	US 2004-824036	20040414
WO 2004111237	A1	20041223	WO 2004-US11848	20040416
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE,				

	ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
US 2005032733	A1	20050210	US 2004-826966	20040416
WO 2004097020	A2	20041111	WO 2004-US12517	20040423
WO 2004097020	A3	20060105		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
US 2005054598	A1	20050310	US 2004-830569	20040423
US 2005148530	A1	20050707	US 2004-831620	20040423
US 2005233996	A1	20051020	US 2004-832522	20040426
US 2005137153	A1	20050623	US 2004-840731	20040506
US 2005171039	A1	20050804	US 2004-844076	20040511
US 2005159376	A1	20050721	US 2004-844072	20040512
AU 2004266311	A1	20050303	AU 2004-266311	20040524
CA 2526831	AA	20050303	CA 2004-2526831	20040524
WO 2005019453	A2	20050303	WO 2004-US16390	20040524
WO 2005019453	A3	20050623		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
EP 1627061	A2	20060222	EP 2004-776102	20040524
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK			
WO 2005045034	A2	20050519	WO 2004-US17630	20040603
WO 2005045034	A3	20050811		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
US 2005137155	A1	20050623	US 2004-861060	20040603
US 2005143333	A1	20050630	US 2004-863973	20040609
US 2005171040	A1	20050804	US 2004-864044	20040609
US 2005119211	A1	20050602	US 2004-869638	20040616
US 2005119212	A1	20050602	US 2004-871222	20040618
CA 2528963	AA	20050113	CA 2004-2528963	20040625
WO 2005003350	A2	20050113	WO 2004-US20516	20040625
WO 2005003350	C1	20050519		
WO 2005003350	A3	20050804		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,			

	CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
US 2005209179	A1	20050922	US 2004-877889	20040625
EP 1644498	A2	20060412	EP 2004-756160	20040625
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK			
US 2005124566	A1	20050609	US 2004-879867	20040628
US 2005130181	A1	20050616	US 2004-881118	20040630
US 2005124567	A1	20050609	US 2004-883218	20040701
WO 2005007854	A2	20050127	WO 2004-US21997	20040709
WO 2005007854	A3	20050818		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
WO 2005007859	A2	20050127	WO 2004-US22247	20040709
WO 2005007859	A3	20051201		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
US 2005124568	A1	20050609	US 2004-888226	20040709
US 2005222064	A1	20051006	US 2004-888269	20040709
EP 1644500	A2	20060412	EP 2004-777833	20040709
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK			
WO 2005007855	A2	20050127	WO 2004-US22658	20040714
WO 2005007855	A3	20050324		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
US 2005124569	A1	20050609	US 2004-892922	20040716
US 2005164224	A1	20050728	US 2004-893010	20040716
US 2005070497	A1	20050331	US 2004-894475	20040719

US 2005176663	A1	20050811	US 2004-897902	20040723
US 2005196765	A1	20050908	US 2004-898660	20040723
US 2005277608	A1	20051215	US 2004-898311	20040723
US 2005182006	A1	20050818	US 2004-903128	20040730
WO 2005014811	A2	20050217	WO 2004-US25589	20040806
WO 2005014811	A3	20051222		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW,			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
US 2005159378	A1	20050721	US 2004-915896	20040811
US 2005159379	A1	20050721	US 2004-916030	20040811
US 2005158735	A1	20050721	US 2004-916095	20040811
US 2005153914	A1	20050714	US 2004-918969	20040816
US 2005164966	A1	20050728	US 2004-918896	20040816
US 2005203040	A1	20050915	US 2004-918987	20040816
US 2005176664	A1	20050811	US 2004-919866	20040817
US 2005176665	A1	20050811	US 2004-919964	20040817
US 2005233997	A1	20051020	US 2004-919584	20040817
WO 2005045036	A2	20050519	WO 2004-US27042	20040818
WO 2005045036	A3	20060302		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW,			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
WO 2005045032	A2	20050519	WO 2004-US26941	20040819
WO 2005045032	A3	20060302		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW,			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
WO 2005045041	A2	20050519	WO 2004-US27404	20040819
WO 2005045041	A3	20050818		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW,			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,			

SN, TD, TG

US 2005136436	A1	20050623	US 2004-923640	20040819
US 2005153915	A1	20050714	US 2004-922544	20040819
US 2005159380	A1	20050721	US 2004-922626	20040819
US 2005159382	A1	20050721	US 2004-923580	20040819
US 2005164967	A1	20050728	US 2004-922034	20040819
US 2005079610	A1	20050414	US 2004-923115	20040820
WO 2005035759	A2	20050421	WO 2004-US27294	20040820
WO 2005035759	C1	20060202		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
WO 2005040379	A2	20050506	WO 2004-US27333	20040820
WO 2005040379	A3	20060302		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
WO 2005045035	A2	20050519	WO 2004-US26930	20040820
WO 2005045035	A3	20051208		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
WO 2005045037	A2	20050519	WO 2004-US27169	20040820
WO 2005045037	A3	20051103		
WO 2005045037	B1	20051229		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
WO 2005045038	A2	20050519	WO 2004-US27231	20040820
WO 2005045038	C1	20050714		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,				

	GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
WO 2005045039	A2	20050519	WO 2004-US27366	20040820
WO 2005045039	C2	20050721		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
WO 2005045040	A2	20050519	WO 2004-US27367	20040820
WO 2005045040	A3	20060223		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
WO 2005044981	A2	20050519	WO 2004-US27403	20040820
WO 2005044981	A3	20050922		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
US 2005153916	A1	20050714	US 2004-923330	20040820
US 2005159381	A1	20050721	US 2004-923522	20040820
US 2005164968	A1	20050728	US 2004-923329	20040820
US 2005170371	A1	20050804	US 2004-922340	20040820
US 2005176666	A1	20050811	US 2004-923182	20040820
US 2005176024	A1	20050811	US 2004-923354	20040820
US 2005176025	A1	20050811	US 2004-923516	20040820
US 2005182007	A1	20050818	US 2004-922675	20040820
US 2005182008	A1	20050818	US 2004-923142	20040820
US 2005182009	A1	20050818	US 2004-923201	20040820
US 2005187174	A1	20050825	US 2004-923181	20040820
US 2005191618	A1	20050901	US 2004-923473	20040820
US 2005196767	A1	20050908	US 2004-923380	20040820
US 2005227935	A1	20051013	US 2004-923470	20040820
US 2005227936	A1	20051013	US 2004-923475	20040820
US 2005233344	A1	20051020	US 2004-923270	20040820

US 2005239731	A1	20051027	US 2004-923379	20040820
US 2005256068	A1	20051117	US 2004-923451	20040820
US 2005267058	A1	20051201	US 2004-922761	20040820
US 2005288242	A1	20051229	US 2004-923476	20040820
WO 2005028650	A2	20050331	WO 2004-US31012	20040915
WO 2005028650	A3	20051229		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW,			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
US 2005209180	A1	20050922	US 2004-942560	20040915
EP 1670915	A2	20060621	EP 2004-816223	20040915
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR			
AU 2004274951	A1	20050331	AU 2004-274951	20040916
CA 2537085	AA	20050331	CA 2004-2537085	20040916
WO 2005028649	A1	20050331	WO 2004-US30488	20040916
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW,			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
US 2005233998	A1	20051020	US 2004-944611	20040916
EP 1664299	A1	20060607	EP 2004-784372	20040916
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK			
US 2005222066	A1	20051006	US 2004-962898	20041012
US 2005261219	A1	20051124	US 2004-1347	20041201
US 2005196781	A1	20050908	US 2004-14373	20041215
US 2006019913	A1	20060126	US 2005-31668	20050106
US 2006025361	A1	20060202	US 2005-35813	20050114
US 2005287128	A1	20051229	US 2005-54047	20050209
US 2005260620	A1	20051124	US 2005-58582	20050215
US 2005277133	A1	20051215	US 2005-63415	20050222
US 2005282188	A1	20051222	US 2005-98303	20050404
US 2006019917	A1	20060126	US 2005-140328	20050527
PRIORITY APPLN. INFO.:			US 2003-720448	A2 20031124
			AU 1995-26422	A3 19950518
			US 1996-623891	A 19960325
			AU 1996-76662	A3 19961025
			US 2000-181797P	P 20000211
			US 2001-780533	B2 20010209
			WO 2001-US4273	A2 20010209
			US 2001-827395	B2 20010405
			US 2001-292217P	P 20010518
			US 2001-294140P	P 20010529
			US 2001-296249P	P 20010606
			US 2001-306883P	P 20010720
			US 2001-916466	B1 20010725
			US 2001-311865P	P 20010813
			US 2001-930423	B2 20010815

US 2001-318471P	P	20010910
US 2001-334461P	P	20011130
US 2002-358580P	P	20020220
US 2002-362016P	P	20020306
US 2002-363124P	P	20020311
WO 2002-US9187	A2	20020326
WO 2002-US10512	A2	20020403
US 2002-374722P	P	20020422
US 2002-151116	A2	20020517
WO 2002-US15876	A2	20020520
US 2002-157580	A2	20020529
WO 2002-US16840	A2	20020529
WO 2002-US17674	A2	20020529
US 2002-163552	A2	20020606
US 2002-386782P	P	20020606
US 2002-393796P	P	20020703
US 2002-393924P	P	20020703
US 2002-396600P	P	20020717
US 2002-396905P	P	20020718
US 2002-201394	A2	20020722
US 2002-398036P	P	20020723
US 2002-205309	A2	20020725
US 2002-206705	A2	20020726
US 2002-399348P	P	20020729
US 2002-401093P	P	20020805
US 2002-401104P	P	20020805
US 2002-404039P	P	20020815
US 2002-225023	A2	20020821
US 2002-406784P	P	20020829
US 2002-408378P	P	20020905
US 2002-409293P	P	20020909
US 2002-409493P	P	20020909
US 2002-238700	A2	20020910
US 2002-409785P	P	20020911
US 2002-411275P	P	20020917
US 2002-411707P	P	20020918
US 2002-251117	A2	20020919
US 2002-412304P	P	20020920
US 2002-413714P	P	20020926
US 2002-418655P	P	20021015
US 2002-277494	B2	20021021
US 2002-287949	A2	20021104
US 2002-425559P	P	20021112
US 2002-427467P	P	20021119
US 2002-306747	A2	20021127
US 2002-429359P	P	20021128
US 2002-431105P	P	20021205
US 2003-439922P	P	20030114
US 2003-440129P	P	20030115
WO 2003-US2510	A2	20030128
WO 2003-US3473	A2	20030205
WO 2003-US3662	A2	20030206
WO 2003-US4034	A2	20030211
WO 2003-US4088	A2	20030211
WO 2003-US4123	A2	20030211
WO 2003-US4347	A2	20030211
WO 2003-US4566	A2	20030211
WO 2003-US7273	A2	20030211
WO 2003-US4250	A2	20030213
WO 2003-US4317	A2	20030213
WO 2003-US4397	A2	20030213
WO 2003-US4402	A2	20030213
WO 2003-US4448	A2	20030213
WO 2003-US4710	A2	20030218

WO 2003-US4738	A2 20030218
WO 2003-US4907	A2 20030218
WO 2003-US4908	A2 20030218
WO 2003-US4909	A2 20030218
WO 2003-US4741	A2 20030220
WO 2003-US4951	A2 20030220
WO 2003-US5022	A2 20030220
WO 2003-US5028	A2 20030220
WO 2003-US5043	A2 20030220
WO 2003-US5044	A2 20030220
WO 2003-US5045	A2 20030220
WO 2003-US5162	A2 20030220
WO 2003-US5190	A 20030220
WO 2003-US5234	A2 20030220
WO 2003-US5326	A2 20030220
WO 2003-US5346	A2 20030220
US 2003-462874P	P 20030415
US 2003-417012	B2 20030416
US 2003-420194	A2 20030422
WO 2003-US12626	A2 20030422
US 2003-422704	B2 20030424
US 2003-424339	A 20030425
US 2003-427160	A2 20030430
US 2003-430882	A2 20030506
US 2003-444853	A2 20030523
US 2003-607933	A 20030627
US 2003-485667P	P 20030709
US 2003-486729P	P 20030711
US 2003-487214P	P 20030714
US 2003-493561P	P 20030808
US 2003-496655P	P 20030820
US 2003-652791	A2 20030829
US 2003-664767	A 20030916
US 2003-665255	A2 20030916
US 2003-667271	A 20030916
US 2003-664668	A2 20030918
US 2003-665951	A2 20030918
US 2003-670011	A2 20030923
US 2003-683990	A2 20031010
US 2003-512701P	P 20031020
US 2003-693059	A2 20031023
US 2003-698311	A 20031031
US 2003-712633	A2 20031113
US 2003-724270	A2 20031126
US 2003-726236	A2 20031202
US 2003-727780	A2 20031203
US 2003-738128	A2 20031218
US 2004-758155	A2 20040112
US 2004-757803	A2 20040114
US 2004-764957	A2 20040126
US 2004-543480P	P 20040210
US 2004-780447	A 20040213
US 2004-783128	A2 20040220
US 2004-798090	A2 20040311
US 2004-800487	A2 20040315
US 2004-824036	A2 20040414
US 2004-825485	A2 20040415
US 2004-826966	A2 20040416
WO 2004-US11848	A2 20040416
US 2004-830569	A2 20040423
US 2004-831620	A2 20040423
WO 2004-US12517	A2 20040423
US 2004-832522	A2 20040426
WO 2004-US13456	A 20040430

US 2004-570086P	P	20040511
US 2004-844076	A	20040511
US 2004-844072	A	20040512
WO 2004-US16390	W	20040524
US 2004-863973	A2	20040609
US 2004-864044	A	20040609
WO 2004-US20516	W	20040625
WO 2004-US21997	W	20040709
US 2004-894475	A2	20040719
US 2004-919866	A	20040817
US 2004-922675	A2	20040820
US 2004-923475	A2	20040820
US 2004-923536	A2	20040820
WO 2004-US31012	W	20040915
US 2004-944611	A2	20040916
WO 2004-US30488	W	20040916
US 2005-31668	A1	20050106
US 2005-39680	A2	20050118
WO 2005-US4270	A2	20050209
US 2005-98303	A2	20050404

AB The present invention concerns methods and reagents useful in modulating gene expression in a variety of applications, including use in therapeutic, diagnostic, target validation, and genomic discovery applications. Specifically, the invention relates to synthetic chemical modified small nucleic acid mols., such as short interfering nucleic acid (siNA), short interfering RNA (siRNA), double-stranded RNA (dsRNA), micro-RNA (miRNA), and short hairpin RNA (shrRNA) mols. capable of mediating RNA interference (RNAi) against target nucleic acid sequences. Introduction of chemical modified nucleotides into nucleic acid mols. provides a powerful tool in overcoming potential limitations of in vivo stability and bioavailability inherent to native RNA mols. Unlike native unmodified siRNA, chemical modified siNA can also minimize the possibility of activating interferon activity in humans. Modifications are described including pyrimidine or purine nucleotides with 2'-deoxy-2'-fluoro or 2'-O-Me groups, phosphorothioate backbone modification, terminal residues comprising inverted deoxy thymidine or inverted deoxy abasic moieties, linking the sense and antisense strands with glyceryl succinate or dodecanoic acid or other linkers, and conjugation of targeting ligands (N-acetylgalactosamine, pteric acid, peptides, or phospholipids) to the oligonucleotide termini. Thus, the serum stability of siNA constructs consisting of all RNA nucleotides containing two thymidine nucleotide overhangs have a half-life in human serum of 15 s, whereas chemical modified siNA constructs remained stable in serum for 1 to 3 days depending on the extent of modification. The small nucleic acid mols. are useful in the treatment of any disease or condition that responds to modulation of gene expression or activity in a cell, tissue, or organism. Three nuclease-resistant siNA mols. targeting site 1580 of hepatitis B virus RNA are designed using Stab 7/8 chemical and a 5'-terminal conjugate moiety (a branched cholesterol conjugate, a branched phospholipid conjugate, and a polyethylene glycol conjugate) showed significant stability in human and mouse serum (t_{1/2} = 10-408 h) and human liver extract (t_{1/2} = 28-43 h); the most stable siNA with all purine positions in the antisense strand with 2'-O-Me nucleotides had a half-life of 816 h in human liver extract

L5 ANSWER 4 OF 14 CA COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 141:319980 CA
 TITLE: RNA interference-mediated inhibition of gene expression using chemically modified short interfering nucleic acids
 INVENTOR(S): Mcswiggen, James; Chowrira, Bharat; Beigelman, Leonid; Macejak, Dennis; Zinnen, Shawn; Pavco, Pamela; Haeberli, Peter; Morrissey, David; Fosnaugh, Kathy; Jamison, Sharon; Usman, Nassim; Thompson, James;

Vargeese, Chandra; Wang, Weimin; Chen, Tongqian;
 Vaish, Narendra
 PATENT ASSIGNEE(S): USA
 SOURCE: U.S. Pat. Appl. Publ., 407 pp., Cont.-in-part of U.S.
 Ser. No. 427,160.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 233
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004192626	A1	20040930	US 2003-444853	20030523
AU 9851819	A1	19980611	AU 1998-51819	19980112 <--
AU 729657	B2	20010208		
AU 9939188	A1	19990916	AU 1999-39188	19990713 <--
AU 769175	B2	20040115	AU 2000-56616	20000911
WO 2002094185	A2	20021128	WO 2002-US15876	20020520 <--
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
WO 2003070918	A2	20030828	WO 2003-US5346	20030220
WO 2003070918	A3	20040708		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
WO 2003074654	A2	20030912	WO 2003-US5028	20030220
WO 2003074654	A3	20040205		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
US 2004110296	A1	20040610	US 2003-427160	20030430
WO 2003106476	A1	20031224	WO 2003-US18911	20030616
WO 2003106476	C1	20040610		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,			

	BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
AU 2003245512	A1	20031231	AU 2003-245512	20030616
US 2005106726	A1	20050519	US 2003-652791	20030829
US 2004209831	A1	20041021	US 2003-667271	20030916
US 2005080031	A1	20050414	US 2003-724270	20031126
US 2005233329	A1	20051020	US 2003-727780	20031203
US 2005096284	A1	20050505	US 2004-783128	20040220
US 2005014172	A1	20050120	US 2004-798090	20040311
US 2005048529	A1	20050303	US 2004-800487	20040315
WO 2004092383	A2	20041028	WO 2004-US11320	20040413
WO 2004092383	A3	20050210		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
US 2005191638	A1	20050901	US 2004-824036	20040414
WO 2004111237	A1	20041223	WO 2004-US11848	20040416
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
US 2005032733	A1	20050210	US 2004-826966	20040416
WO 2004097020	A2	20041111	WO 2004-US12517	20040423
WO 2004097020	A3	20060105		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
US 2005054598	A1	20050310	US 2004-830569	20040423
US 2005148530	A1	20050707	US 2004-831620	20040423
US 2005233996	A1	20051020	US 2004-832522	20040426
US 2005137153	A1	20050623	US 2004-840731	20040506
US 2005171039	A1	20050804	US 2004-844076	20040511
US 2005159376	A1	20050721	US 2004-844072	20040512
AU 2004266311	A1	20050303	AU 2004-266311	20040524
CA 2526831	AA	20050303	CA 2004-2526831	20040524
WO 2005019453	A2	20050303	WO 2004-US16390	20040524
WO 2005019453	A3	20050623		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,			

TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
 AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
 EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,
 SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
 SN, TD, TG

EP 1627061	A2	20060222	EP 2004-776102	20040524
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
US 2005137155	A1	20050623	US 2004-861060	20040603
US 2005143333	A1	20050630	US 2004-863973	20040609
US 2005171040	A1	20050804	US 2004-864044	20040609
US 2005119211	A1	20050602	US 2004-869638	20040616
US 2005119212	A1	20050602	US 2004-871222	20040618
US 2005209179	A1	20050922	US 2004-877889	20040625
US 2005124566	A1	20050609	US 2004-879867	20040628
US 2005130181	A1	20050616	US 2004-881118	20040630
US 2005124567	A1	20050609	US 2004-883218	20040701
US 2005124568	A1	20050609	US 2004-888226	20040709
US 2005222064	A1	20051006	US 2004-888269	20040709
US 2005124569	A1	20050609	US 2004-892922	20040716
US 2005164224	A1	20050728	US 2004-893010	20040716
US 2005070497	A1	20050331	US 2004-894475	20040719
US 2005176663	A1	20050811	US 2004-897902	20040723
US 2005196765	A1	20050908	US 2004-898660	20040723
US 2005277608	A1	20051215	US 2004-898311	20040723
US 2005182006	A1	20050818	US 2004-903128	20040730
US 2005159378	A1	20050721	US 2004-915896	20040811
US 2005159379	A1	20050721	US 2004-916030	20040811
US 2005158735	A1	20050721	US 2004-916095	20040811
US 2005153914	A1	20050714	US 2004-918969	20040816
US 2005164966	A1	20050728	US 2004-918896	20040816
US 2005203040	A1	20050915	US 2004-918987	20040816
US 2005176664	A1	20050811	US 2004-919866	20040817
US 2005176665	A1	20050811	US 2004-919964	20040817
US 2005233997	A1	20051020	US 2004-919584	20040817
US 2005136436	A1	20050623	US 2004-923640	20040819
US 2005153915	A1	20050714	US 2004-922544	20040819
US 2005159380	A1	20050721	US 2004-922626	20040819
US 2005159382	A1	20050721	US 2004-923580	20040819
US 2005164967	A1	20050728	US 2004-922034	20040819
US 2005079610	A1	20050414	US 2004-923115	20040820
US 2005153916	A1	20050714	US 2004-923330	20040820
US 2005159381	A1	20050721	US 2004-923522	20040820
US 2005164968	A1	20050728	US 2004-923329	20040820
US 2005170371	A1	20050804	US 2004-922340	20040820
US 2005176666	A1	20050811	US 2004-923182	20040820
US 2005176024	A1	20050811	US 2004-923354	20040820
US 2005176025	A1	20050811	US 2004-923516	20040820
US 2005182007	A1	20050818	US 2004-922675	20040820
US 2005182008	A1	20050818	US 2004-923142	20040820
US 2005182009	A1	20050818	US 2004-923201	20040820
US 2005187174	A1	20050825	US 2004-923181	20040820
US 2005191618	A1	20050901	US 2004-923473	20040820
US 2005196767	A1	20050908	US 2004-923380	20040820
US 2005227935	A1	20051013	US 2004-923470	20040820
US 2005227936	A1	20051013	US 2004-923475	20040820
US 2005233344	A1	20051020	US 2004-923270	20040820
US 2005239731	A1	20051027	US 2004-923379	20040820
US 2005256068	A1	20051117	US 2004-923451	20040820
US 2005267058	A1	20051201	US 2004-922761	20040820
US 2005288242	A1	20051229	US 2004-923476	20040820
US 2005209180	A1	20050922	US 2004-942560	20040915
US 2005233998	A1	20051020	US 2004-944611	20040916

US 2005222066	A1	20051006	US 2004-962898	20041012
US 2005261219	A1	20051124	US 2004-1347	20041201
US 2005209182	A1	20050922	US 2004-11913	20041214
US 2005196781	A1	20050908	US 2004-14373	20041215
US 2006019913	A1	20060126	US 2005-31668	20050106
US 2006025361	A1	20060202	US 2005-35813	20050114
US 2005287128	A1	20051229	US 2005-54047	20050209
US 2005260620	A1	20051124	US 2005-58582	20050215
US 2005277133	A1	20051215	US 2005-63415	20050222
US 2005282188	A1	20051222	US 2005-98303	20050404
US 2006019917	A1	20060126	US 2005-140328	20050527
PRIORITY APPLN. INFO.:			WO 2002-US15876	A2 20020520
			US 2002-409293P	P 20020909
			US 2003-440129P	P 20030115
			WO 2003-US5028	A2 20030220
			WO 2003-US5346	A2 20030220
			US 2003-417012	A1 20030416
			US 2003-422704	A2 20030424
			US 2003-427160	A2 20030430
			AU 1995-26422	A3 19950518
			US 1996-623891	A 19960325
			AU 1996-76662	A3 19961025
			US 2000-181797P	P 20000211
			US 2001-780533	B2 20010209
			WO 2001-US4273	A2 20010209
			US 2001-827395	B2 20010405
			US 2001-292217P	P 20010518
			US 2001-294140P	P 20010529
			US 2001-296249P	P 20010606
			US 2001-306883P	P 20010720
			US 2001-916466	B1 20010725
			US 2001-311865P	P 20010813
			US 2001-930423	B2 20010815
			US 2001-318471P	P 20010910
			US 2001-334461P	P 20011130
			US 2002-358580P	P 20020220
			US 2002-362016P	P 20020306
			US 2002-363124P	P 20020311
			WO 2002-US9187	A2 20020326
			WO 2002-US10512	A2 20020403
			US 2002-374722P	P 20020422
			US 2002-151116	A2 20020517
			US 2002-157580	A2 20020529
			WO 2002-US16840	A2 20020529
			WO 2002-US17674	A2 20020529
			US 2002-163552	A2 20020606
			US 2002-386782P	P 20020606
			US 2002-389198P	P 20020617
			US 2002-393796P	P 20020703
			US 2002-393924P	P 20020703
			US 2002-396600P	P 20020717
			US 2002-396905P	P 20020718
			US 2002-201394	A2 20020722
			US 2002-398036P	P 20020723
			US 2002-205309	A2 20020725
			US 2002-206705	A2 20020726
			US 2002-399348P	P 20020729
			US 2002-401093P	P 20020805
			US 2002-401104P	P 20020805
			US 2002-404039P	P 20020815
			US 2002-225023	A2 20020821
			US 2002-406784P	P 20020829
			US 2002-408378P	P 20020905
			US 2002-409493P	P 20020909

US 2002-238700	A2 20020910
US 2002-409785P	P 20020911
US 2002-411275P	P 20020917
US 2002-411707P	P 20020918
US 2002-251117	A2 20020919
US 2002-412304P	P 20020920
US 2002-413714P	P 20020926
US 2002-418655P	P 20021015
US 2002-277494	B2 20021021
US 2002-287949	A2 20021104
US 2002-425559P	P 20021112
US 2002-427467P	P 20021119
US 2002-306747	A2 20021127
US 2002-429359P	P 20021128
US 2002-431105P	P 20021205
US 2003-439922P	P 20030114
WO 2003-US2510	A2 20030128
WO 2003-US3473	A2 20030205
WO 2003-US3662	A2 20030206
WO 2003-US4034	A2 20030211
WO 2003-US4088	A2 20030211
WO 2003-US4123	A2 20030211
WO 2003-US4347	A2 20030211
WO 2003-US4566	A2 20030211
WO 2003-US7273	A2 20030211
WO 2003-US4250	A2 20030213
WO 2003-US4317	A2 20030213
WO 2003-US4397	A2 20030213
WO 2003-US4402	A2 20030213
WO 2003-US4448	A2 20030213
WO 2003-US4710	A2 20030218
WO 2003-US4738	A2 20030218
WO 2003-US4907	A2 20030218
WO 2003-US4908	A2 20030218
WO 2003-US4909	A2 20030218
WO 2003-US4741	A2 20030220
WO 2003-US4951	A2 20030220
WO 2003-US5022	A2 20030220
WO 2003-US5043	A2 20030220
WO 2003-US5044	A2 20030220
WO 2003-US5045	A2 20030220
WO 2003-US5162	A2 20030220
WO 2003-US5190	A 20030220
WO 2003-US5234	A2 20030220
WO 2003-US5326	A2 20030220
US 2003-462874P	P 20030415
US 2003-420194	A2 20030422
WO 2003-US12626	A2 20030422
US 2003-424339	A 20030425
US 2003-430882	A2 20030506
US 2003-444853	A 20030523
WO 2003-US18911	W 20030616
US 2003-607933	A2 20030627
US 2003-485667P	P 20030709
US 2003-486729P	P 20030711
US 2003-652791	A2 20030829
US 2003-664767	B2 20030916
US 2003-665255	A2 20030916
US 2003-667271	A2 20030916
US 2003-664668	A2 20030918
US 2003-665951	A2 20030918
US 2003-670011	A2 20030923
US 2003-683990	A2 20031010
US 2003-512701P	P 20031020

US 2003-693059	A2 20031023
US 2003-698311	A2 20031031
US 2003-712633	A2 20031113
US 2003-720448	A2 20031124
US 2003-724270	A2 20031126
US 2003-726236	A2 20031202
US 2003-727780	A2 20031203
US 2003-738128	A2 20031218
US 2004-758155	A2 20040112
US 2004-757803	A2 20040114
US 2004-764957	A2 20040126
US 2004-543480P	P 20040210
US 2004-780447	A 20040213
US 2004-783128	A2 20040220
US 2004-798090	A2 20040311
US 2004-800487	A2 20040315
US 2004-824036	A2 20040414
US 2004-825485	A2 20040415
US 2004-826966	A2 20040416
WO 2004-US11848	A2 20040416
US 2004-830569	A2 20040423
US 2004-831620	A2 20040423
WO 2004-US12517	A2 20040423
US 2004-832522	A2 20040426
WO 2004-US13456	A2 20040430
US 2004-570086P	P 20040511
US 2004-844076	A2 20040511
US 2004-844072	A2 20040512
WO 2004-US16390	W 20040524
US 2004-863973	A2 20040609
US 2004-894475	A2 20040719
US 2004-922675	A2 20040820
US 2004-923475	A2 20040820
US 2004-923536	A2 20040820
US 2004-944611	A2 20040916
US 2005-31668	A1 20050106
US 2005-39680	A2 20050118
WO 2005-US4270	A2 20050209
US 2005-98303	A2 20050404

AB The present invention concerns methods and reagents useful in modulating gene expression in a variety of applications, including use in therapeutic, diagnostic, target validation, and genomic discovery applications. Specifically, the invention relates to synthetic chemical modified small nucleic acid mols., such as short interfering nucleic acid (siNA), short interfering RNA (**siRNA**), double-stranded RNA (**dsRNA**), micro-RNA (miRNA), and short hairpin RNA (shRNA) mols. capable of mediating RNA interference (**RNAi**) against target nucleic acid sequences. Introduction of chemical modified nucleotides into nucleic acid mols. provides a powerful tool in overcoming potential limitations of in vivo stability and bioavailability inherent to native RNA mols. Unlike native unmodified **siRNA**, chemical modified siNA can also minimize the possibility of activating interferon activity in humans. Modifications are described including pyrimidine or purine nucleotides with 2'-deoxy-2'-fluoro or 2'-O-Me groups, phosphorothioate backbone modification, terminal residues comprising inverted deoxy thymidine or inverted deoxy abasic moieties, linking the sense and antisense strands with glyceryl succinate or dodecanoic acid or other linkers, and conjugation of targeting ligands (N-acetylgalactosamine, pteric acid, peptides, or phospholipids) to the oligonucleotide termini. Thus, the serum stability of siNA constructs consisting of all RNA nucleotides containing two thymidine nucleotide overhangs have a half-life in human serum of 15 s, whereas chemical modified siNA constructs remained stable in serum for 1 to 3 days depending on the extent of modification. The small nucleic acid mols. are useful in the treatment of any disease or

condition that responds to modulation of gene expression or activity in a cell, tissue, or organism. Three nuclease-resistant siNA mols. targeting site 1580 of hepatitis B virus RNA are designed using Stab 7/8 chemical and a 5'-terminal conjugate moiety (a branched cholesterol conjugate, a branched phospholipid conjugate, and a polyethylene glycol conjugate) showed significant stability in human and mouse serum (t_{1/2} = 10-408 h) and human liver extract (t_{1/2} = 28-43 h); the most stable siNA with all purine positions in the antisense strand with 2'-O-Me nucleotides had a half-life of 816 h in human liver extract

L5 ANSWER 5 OF 14 CA COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 139:240342 CA

TITLE: RNA interference mediated inhibition of gene expression using chemically modified short interfering nucleic acid

INVENTOR(S): Mcswiggen, James; Beigelman, Leonid; Chowrira, Bharat; Pavco, Pamela; Fosnaugh, Kathy; Jamison, Sharon; Usman, Nassim; Thompson, James

PATENT ASSIGNEE(S): Sirna Therapeutics, Inc., USA

SOURCE: PCT Int. Appl., 593 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 233

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003074654	A2	20030912	WO 2003-US5028	20030220
WO 2003074654	A3	20040205		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
AU 9851819	A1	19980611	AU 1998-51819	19980112 <--
AU 729657	B2	20010208		
AU 9939188	A1	19990916	AU 1999-39188	19990713 <--
AU 769175	B2	20040115	AU 2000-56616	20000911
CA 2455447	AA	20030912	CA 2003-2455447	20030220
AU 2003216324	A1	20030916	AU 2003-216324	20030220
EP 1423406	A2	20040602	EP 2003-743684	20030220
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK			
GB 2396616	A1	20040630	GB 2004-4912	20030220
GB 2396616	B2	20050921		
JP 2005518803	T2	20050630	JP 2003-573107	20030220
US 2006127891	A1	20060615	US 2003-424339	20030425
US 2004110296	A1	20040610	US 2003-427160	20030430
US 2004192626	A1	20040930	US 2003-444853	20030523
US 2005106726	A1	20050519	US 2003-652791	20030829
US 2004219671	A1	20041104	US 2003-698311	20031031
US 2005080031	A1	20050414	US 2003-724270	20031126
US 2005233329	A1	20051020	US 2003-727780	20031203
US 2005096284	A1	20050505	US 2004-783128	20040220
US 2005014172	A1	20050120	US 2004-798090	20040311
US 2005048529	A1	20050303	US 2004-800487	20040315
US 2005191638	A1	20050901	US 2004-824036	20040414
US 2005032733	A1	20050210	US 2004-826966	20040416

US 2005054598	A1	20050310	US 2004-830569	20040423
US 2005148530	A1	20050707	US 2004-831620	20040423
US 2005233996	A1	20051020	US 2004-832522	20040426
US 2005137153	A1	20050623	US 2004-840731	20040506
US 2005171039	A1	20050804	US 2004-844076	20040511
US 2005159376	A1	20050721	US 2004-844072	20040512
US 2005137155	A1	20050623	US 2004-861060	20040603
US 2005143333	A1	20050630	US 2004-863973	20040609
US 2005171040	A1	20050804	US 2004-864044	20040609
US 2005119211	A1	20050602	US 2004-869638	20040616
US 2005119212	A1	20050602	US 2004-871222	20040618
US 2005209179	A1	20050922	US 2004-877889	20040625
US 2005124566	A1	20050609	US 2004-879867	20040628
US 2005130181	A1	20050616	US 2004-881118	20040630
US 2005124567	A1	20050609	US 2004-883218	20040701
US 2005124568	A1	20050609	US 2004-888226	20040709
US 2005222064	A1	20051006	US 2004-888269	20040709
US 2005124569	A1	20050609	US 2004-892922	20040716
US 2005164224	A1	20050728	US 2004-893010	20040716
US 2005070497	A1	20050331	US 2004-894475	20040719
US 2005176663	A1	20050811	US 2004-897902	20040723
US 2005196765	A1	20050908	US 2004-898660	20040723
US 2005277608	A1	20051215	US 2004-898311	20040723
US 2005182006	A1	20050818	US 2004-903128	20040730
US 2005159378	A1	20050721	US 2004-915896	20040811
US 2005159379	A1	20050721	US 2004-916030	20040811
US 2005158735	A1	20050721	US 2004-916095	20040811
US 2005153914	A1	20050714	US 2004-918969	20040816
US 2005164966	A1	20050728	US 2004-918896	20040816
US 2005203040	A1	20050915	US 2004-918987	20040816
US 2005176664	A1	20050811	US 2004-919866	20040817
US 2005176665	A1	20050811	US 2004-919964	20040817
US 2005233997	A1	20051020	US 2004-919584	20040817
US 2005136436	A1	20050623	US 2004-923640	20040819
US 2005153915	A1	20050714	US 2004-922544	20040819
US 2005159380	A1	20050721	US 2004-922626	20040819
US 2005159382	A1	20050721	US 2004-923580	20040819
US 2005164967	A1	20050728	US 2004-922034	20040819
US 2005079610	A1	20050414	US 2004-923115	20040820
US 2005153916	A1	20050714	US 2004-923330	20040820
US 2005159381	A1	20050721	US 2004-923522	20040820
US 2005164968	A1	20050728	US 2004-923329	20040820
US 2005170371	A1	20050804	US 2004-922340	20040820
US 2005176666	A1	20050811	US 2004-923182	20040820
US 2005176024	A1	20050811	US 2004-923354	20040820
US 2005176025	A1	20050811	US 2004-923516	20040820
US 2005182007	A1	20050818	US 2004-922675	20040820
US 2005182008	A1	20050818	US 2004-923142	20040820
US 2005182009	A1	20050818	US 2004-923201	20040820
US 2005187174	A1	20050825	US 2004-923181	20040820
US 2005191618	A1	20050901	US 2004-923473	20040820
US 2005196767	A1	20050908	US 2004-923380	20040820
US 2005227935	A1	20051013	US 2004-923470	20040820
US 2005227936	A1	20051013	US 2004-923475	20040820
US 2005233344	A1	20051020	US 2004-923270	20040820
US 2005239731	A1	20051027	US 2004-923379	20040820
US 2005256068	A1	20051117	US 2004-923451	20040820
US 2005267058	A1	20051201	US 2004-922761	20040820
US 2005288242	A1	20051229	US 2004-923476	20040820
US 2005209180	A1	20050922	US 2004-942560	20040915
US 2005233998	A1	20051020	US 2004-944611	20040916
US 2005222066	A1	20051006	US 2004-962898	20041012
US 2005266422	A1	20051201	US 2004-981966	20041105
US 2005261219	A1	20051124	US 2004-1347	20041201

US 2005196781	A1	20050908	US 2004-14373	20041215
US 2006019913	A1	20060126	US 2005-31668	20050106
US 2006025361	A1	20060202	US 2005-35813	20050114
US 2005287128	A1	20051229	US 2005-54047	20050209
US 2005260620	A1	20051124	US 2005-58582	20050215
US 2005277133	A1	20051215	US 2005-63415	20050222
US 2005282188	A1	20051222	US 2005-98303	20050404
US 2006019917	A1	20060126	US 2005-140328	20050527
PRIORITY APPLN. INFO.:			US 2002-358580P	P 20020220
			US 2002-363124P	P 20020311
			US 2002-386782P	P 20020606
			US 2002-406784P	P 20020829
			US 2002-408378P	P 20020905
			US 2002-409293P	P 20020909
			AU 1995-26422	A3 19950518
			US 1996-623891	A 19960325
			AU 1996-76662	A3 19961025
			US 2000-181797P	P 20000211
			US 2001-780533	B2 20010209
			WO 2001-US4273	A2 20010209
			US 2001-827395	B2 20010405
			US 2001-292217P	P 20010518
			US 2001-294140P	P 20010529
			US 2001-296249P	P 20010606
			US 2001-306883P	P 20010720
			US 2001-916466	B1 20010725
			US 2001-311865P	P 20010813
			US 2001-930423	B2 20010815
			US 2001-318471P	P 20010910
			US 2001-334461P	P 20011130
			US 2002-362016P	P 20020306
			WO 2002-US9187	A2 20020326
			WO 2002-US10512	A2 20020403
			US 2002-374722P	P 20020422
			US 2002-151116	A2 20020517
			WO 2002-US15876	A2 20020520
			US 2002-157580	A2 20020529
			WO 2002-US16840	A2 20020529
			WO 2002-US17674	A2 20020529
			US 2002-163552	A2 20020606
			US 2002-393796P	P 20020703
			US 2002-393924P	P 20020703
			US 2002-396600P	P 20020717
			US 2002-396905P	P 20020718
			US 2002-201394	A2 20020722
			US 2002-398036P	P 20020723
			US 2002-205309	A2 20020725
			US 2002-206705	A2 20020726
			US 2002-399348P	P 20020729
			US 2002-401093P	P 20020805
			US 2002-401104P	P 20020805
			US 2002-404039P	P 20020815
			US 2002-225023	A2 20020821
			US 2002-409493P	P 20020909
			US 2002-238700	A2 20020910
			US 2002-409785P	P 20020911
			US 2002-411275P	P 20020917
			US 2002-411707P	P 20020918
			US 2002-251117	A2 20020919
			US 2002-412304P	P 20020920
			US 2002-413714P	P 20020926
			US 2002-418655P	P 20021015
			US 2002-277494	B2 20021021
			US 2002-287949	A2 20021104

US 2002-425559P	P 20021112
US 2002-427467P	P 20021119
US 2002-306747	A2 20021127
US 2002-429359P	P 20021128
US 2002-431105P	P 20021205
US 2003-439922P	P 20030114
US 2003-440129P	P 20030115
WO 2003-US2510	A2 20030128
WO 2003-US3473	A2 20030205
WO 2003-US3662	A2 20030206
WO 2003-US4034	A2 20030211
WO 2003-US4088	A2 20030211
WO 2003-US4123	A2 20030211
WO 2003-US4347	A2 20030211
WO 2003-US4566	A2 20030211
WO 2003-US7273	A2 20030211
WO 2003-US4250	A2 20030213
WO 2003-US4317	A2 20030213
WO 2003-US4397	A2 20030213
WO 2003-US4402	A2 20030213
WO 2003-US4448	A2 20030213
WO 2003-US4710	A2 20030218
WO 2003-US4738	A2 20030218
WO 2003-US4907	A2 20030218
WO 2003-US4908	A2 20030218
WO 2003-US4909	A2 20030218
WO 2003-US4741	A2 20030220
WO 2003-US4951	A2 20030220
WO 2003-US5022	A2 20030220
WO 2003-US5028	W 20030220
WO 2003-US5043	A2 20030220
WO 2003-US5044	A2 20030220
WO 2003-US5045	A2 20030220
WO 2003-US5162	A2 20030220
WO 2003-US5190	A 20030220
WO 2003-US5234	A2 20030220
WO 2003-US5326	A2 20030220
WO 2003-US5346	A2 20030220
US 2003-417012	A1 20030416
US 2003-420194	A2 20030422
WO 2003-US12626	A2 20030422
US 2003-422704	A2 20030424
US 2003-424339	A2 20030425
US 2003-427160	A2 20030430
US 2003-430882	A2 20030506
US 2003-444853	A2 20030523
US 2003-607933	A2 20030627
US 2003-485667P	P 20030709
US 2003-486729P	P 20030711
US 2003-652791	A2 20030829
US 2003-664767	B2 20030916
US 2003-665255	A2 20030916
US 2003-667271	A2 20030916
US 2003-664668	A2 20030918
US 2003-665951	A2 20030918
US 2003-670011	A2 20030923
US 2003-683990	A2 20031010
US 2003-512701P	P 20031020
US 2003-693059	A2 20031023
US 2003-698311	A2 20031031
US 2003-712633	A2 20031113
US 2003-720448	A2 20031124
US 2003-724270	A2 20031126
US 2003-726236	A2 20031202

US 2003-727780	A2 20031203
US 2003-738128	A2 20031218
US 2004-758155	A2 20040112
US 2004-757803	A2 20040114
US 2004-764957	A2 20040126
US 2004-543480P	P 20040210
US 2004-780447	A2 20040213
US 2004-783128	A2 20040220
US 2004-798090	A2 20040311
US 2004-800487	A2 20040315
US 2004-824036	A2 20040414
US 2004-825485	A2 20040415
US 2004-826966	A2 20040416
WO 2004-US11848	A2 20040416
US 2004-830569	A2 20040423
US 2004-831620	A2 20040423
WO 2004-US12517	A2 20040423
US 2004-832522	A2 20040426
WO 2004-US13456	A2 20040430
US 2004-570086P	P 20040511
US 2004-844076	A2 20040511
US 2004-844072	A2 20040512
WO 2004-US16390	A2 20040524
US 2004-863973	A2 20040609
US 2004-894475	A2 20040719
US 2004-922675	A2 20040820
US 2004-923475	A2 20040820
US 2004-923536	A2 20040820
US 2004-944611	A2 20040916
US 2005-31668	A1 20050106
US 2005-39680	A2 20050118
WO 2005-US4270	A2 20050209
US 2005-98303	A2 20050404

AB The present invention concerns methods and reagents useful in modulating gene expression in a variety of applications, including use in therapeutic, diagnostic, target validation, and genomic discovery applications. Specifically, the invention relates to small nucleic acid mols., such as short interfering nucleic acid (siNA), short interfering RNA (**siRNA**), double-stranded RNA (**dsRNA**), micro-RNA (miRNA), and short hairpin RNA (shRNA) mols. capable of mediating RNA interference (**RNAi**) against target nucleic acid sequences. Exemplary siNA mols. are synthesized in tandem using standard phosphoramidite synthesis chemical and a cleavable linker, for example a succinyl-based linker, followed by a one-step purification process that provides **RNAi** mols. in high yield. Chemical modifications (2'-O-Me and 2'-deoxy-2'-fluoro groups, phosphorothioate linkages, 5'-terminal caps comprising an inverted deoxy abasic moiety, etc.) in siNA constructs are selected to yield nuclease resistance while preserving the ability to mediate **RNAi** activity. The siNA mols. are designed that can bind to target mRNAs for vascular endothelial growth factor receptors, BCL2, **HER2/neu**/ c-Myc, PCNA, RELA, PTP1B, BACE, CHK1, PKC- α , and EGFR/HER1, and are optionally individually analyzed by a computer folding algorithm to assess whether the siNA mol. can interact with the target sequence. The siNA mols. are useful in the treatment and diagnosis of any condition that responds to modulation of gene expression or activity in a cell, tissue, or organism.

L5 ANSWER 6 OF 14 CA COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 139:191417 CA
 TITLE: RNA interference-mediated inhibition of epidermal growth factor receptor gene expression using short interfering nucleic acids
 INVENTOR(S): McSwiggen, James; Pavco, Pamela; Beigelman, Leonid; Fosnaugh, Kathy; Jamison, Sharon

PATENT ASSIGNEE(S): Ribozyne Pharmaceuticals, Incorporated, USA; Sirna
Therapeutics, Inc.
SOURCE: PCT Int. Appl., 171 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 233
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003070912	A2	20030828	WO 2003-US5045	20030220
WO 2003070912	A3	20041111		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 9851819	A1	19980611	AU 1998-51819	19980112 <--
AU 729657	B2	20010208		
AU 9939188	A1	19990916	AU 1999-39188	19990713 <--
AU 769175	B2	20040115	AU 2000-56616	20000911
US 2003064945	A1	20030403	US 2001-916466	20010725
WO 2002097114	A2	20021205	WO 2002-US16840	20020529 <--
WO 2002097114	A3	20030508		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2003105051	A1	20030605	US 2002-163552	20020606
US 2003170891	A1	20030911	US 2002-251117	20020919
US 2003186909	A1	20031002	US 2002-277494	20021021
AU 2003219818	A1	20030909	AU 2003-219818	20030220
EP 1501853	A2	20050202	EP 2003-716093	20030220
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2005517437	T2	20050616	JP 2003-569805	20030220
US 2005176024	A1	20050811	US 2004-923354	20040820
PRIORITY APPLN. INFO.:			US 2001-296249P	P 20010606
			US 2001-916466	A 20010725
			US 2002-358580P	P 20020220
			US 2002-363124P	P 20020311
			WO 2002-US16840	A1 20020529
			US 2002-163552	A1 20020606
			US 2002-386782P	P 20020606
			US 2002-393924P	P 20020703
			US 2002-406784P	P 20020829
			US 2002-408378P	P 20020905
			US 2002-409293P	P 20020909
			US 2002-251117	A1 20020919
			US 2002-277494	A1 20021021
			US 2003-440129P	P 20030115
			AU 1995-26422	A3 19950518

US 1996-623891	A 19960325
AU 1996-76662	A3 19961025
US 1997-36476P	P 19970131
US 1997-985162	A1 19971204
US 1999-401063	A2 19990922
US 2001-848754	A2 20010503
US 2001-292217P	P 20010518
US 2001-294140P	P 20010529
US 2001-306883P	P 20010720
US 2001-311865P	P 20010813
US 2001-318471P	P 20010910
US 2002-362016P	P 20020306
WO 2002-US15876	A2 20020520
WO 2003-US5028	A2 20030220
WO 2003-US5045	W 20030220
WO 2003-US5346	A2 20030220
US 2003-427160	A2 20030430
US 2003-444853	A2 20030523
US 2003-693059	A2 20031023
US 2003-720448	A2 20031124
US 2003-724270	A2 20031126
US 2003-727780	A2 20031203
US 2004-757803	A2 20040114
US 2004-543480P	P 20040210
US 2004-780447	A2 20040213
US 2004-826966	A2 20040416
WO 2004-US13456	A2 20040430
WO 2004-US16390	A2 20040524

AB The present invention concerns methods and reagents useful in modulating epidermal growth factor receptor gene (HER1, **HER2** also known as **erbB2/neu**, HER3, and HER4) expression in a variety of applications, including use in therapeutic, diagnostic, target validation, and genomic discovery applications. Specifically, the invention relates to small nucleic acid mols., such as short interfering nucleic acid (siNA), short interfering RNA (**siRNA**), double-stranded RNA (**dsRNA**), micro-RNA (miRNA), and short hairpin RNA (shrRNA) mols. capable of mediating RNA interference (**RNAi**) against epidermal growth factor receptor gene expression and/or activity. Exemplary siNA mols. are synthesized in tandem using standard phosphoramidite synthesis chemical and a cleavable linker, for example a succinyl-based linker, followed by a one-step purification process that provides **RNAi** mols. in high yield. Chemical modifications (2'-O-Me and 2'-deoxy-2'-fluoro groups, phosphorothioate linkages, 5'-terminal caps comprising an inverted deoxy abasic moiety, etc.) in siNA constructs are selected to yield nuclease resistance while preserving the ability to mediate **RNAi** activity. The siNA mols. are designed that can bind to each target and are optionally individually analyzed by a computer folding algorithm to assess whether the siNA mol. can interact with the target sequence. The efficacy of siNAs targeting epidermal growth factor receptor genes are tested in cell culture using, for example, SKBR-3 or SKOV-3 cells, to detn the extent of RNA and protein inhibition; after an optimal transfection agent concentration is chosen, a RNA time-course of inhibition is performed with the lead siNA mol(s). The siNA mols. are useful in the treatment and diagnosis of cancer.

L5 ANSWER 7 OF 14 CA COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 139:240335 CA
 TITLE: RNA interference-mediated inhibition of epidermal growth factor receptor gene expression using short interfering nucleic acids
 INVENTOR(S): McSwiggen, James A.
 PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 307 pp., Cont.-in-part of U.S. Ser. No. 163,552.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 233
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003170891	A1	20030911	US 2002-251117	20020919
AU 9851819	A1	19980611	AU 1998-51819	19980112 <--
AU 729657	B2	20010208		
AU 9939188	A1	19990916	AU 1999-39188	19990713 <--
AU 769175	B2	20040115	AU 2000-56616	20000911
US 2003064945	A1	20030403	US 2001-916466	20010725
US 2003105051	A1	20030605	US 2002-163552	20020606
WO 2003070912	A2	20030828	WO 2003-US5045	20030220
WO 2003070912	A3	20041111		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003219818	A1	20030909	AU 2003-219818	20030220
EP 1501853	A2	20050202	EP 2003-716093	20030220
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2005517437	T2	20050616	JP 2003-569805	20030220
US 2005176024	A1	20050811	US 2004-923354	20040820
PRIORITY APPLN. INFO.:				
			US 2001-296249P	P 20010606
			US 2001-916466	A2 20010725
			US 2002-358580P	P 20020220
			US 2002-163552	A2 20020606
			US 2002-393924P	P 20020703
			AU 1995-26422	A3 19950518
			US 1996-623891	A 19960325
			AU 1996-76662	A3 19961025
			US 1997-36476P	P 19970131
			US 1997-985162	A1 19971204
			US 1999-401063	A2 19990922
			US 2001-848754	A2 20010503
			US 2001-292217P	P 20010518
			US 2001-306883P	P 20010720
			US 2001-311865P	P 20010813
			US 2002-362016P	P 20020306
			US 2002-363124P	P 20020311
			WO 2002-US15876	A2 20020520
			WO 2002-US16840	A1 20020529
			US 2002-386782P	P 20020606
			US 2002-406784P	P 20020829
			US 2002-408378P	P 20020905
			US 2002-409293P	P 20020909
			US 2002-251117	A1 20020919
			US 2002-277494	A1 20021021
			US 2003-440129P	P 20030115
			WO 2003-US5028	A2 20030220
			WO 2003-US5045	W 20030220
			WO 2003-US5346	A2 20030220

US 2003-427160	A2 20030430
US 2003-444853	A2 20030523
US 2003-693059	A2 20031023
US 2003-720448	A2 20031124
US 2003-724270	A2 20031126
US 2003-727780	A2 20031203
US 2004-757803	A2 20040114
US 2004-543480P	P 20040210
US 2004-780447	A2 20040213
US 2004-826966	A2 20040416
WO 2004-US13456	A2 20040430
WO 2004-US16390	A2 20040524

OTHER SOURCE(S): MARPAT 139:240335

AB The present invention concerns methods and reagents useful in modulating epidermal growth factor receptor gene (HER1, **HER2** also known as **erbB2/neu**, HER3, and HER4) expression in a variety of applications, including use in therapeutic, diagnostic, target validation, and genomic discovery applications. Specifically, the invention relates to small nucleic acid mols., such as short interfering nucleic acid (siNA), short interfering RNA (**siRNA**), double-stranded RNA (**dsRNA**), micro-RNA (miRNA), and short hairpin RNA (shRNA) mols. capable of mediating RNA interference (**RNAi**) against epidermal growth factor receptor gene expression and/or activity. Exemplary siNA mols. are synthesized in tandem using standard phosphoramidite synthesis chemical and a cleavable linker, for example a succinyl-based linker, followed by a one-step purification process that provides **RNAi** mols. in high yield. Chemical modifications (2'-O-Me and 2'-deoxy-2'-fluoro groups, phosphorothioate linkages, 5'-terminal caps comprising an inverted deoxy abasic moiety, etc.) in siNA constructs are selected to yield nuclease resistance while preserving the ability to mediate **RNAi** activity. The siNA mols. are designed that can bind to each target and are optionally individually analyzed by a computer folding algorithm to assess whether the siNA mol. can interact with the target sequence. The efficacy of siNAs targeting epidermal growth factor receptor genes are tested in cell culture using, for example, SKBR-3 or SKOV-3 cells, to detn the extent of RNA and protein inhibition; after an optimal transfection agent concentration is chosen, a RNA time-course of inhibition is performed with the lead siNA mol(s). The siNA mols. are useful in the treatment and diagnosis of cancer.

L5 ANSWER 8 OF 14 CA COPYRIGHT 2006 ACS on STN DUPLICATE 1
 ACCESSION NUMBER: 138:19530 CA
 TITLE: Nucleic acid treatment of diseases or conditions related to levels of Ras, HER2 and HIV
 INVENTOR(S): McSwiggen, James
 PATENT ASSIGNEE(S): Ribozyme Pharmaceuticals, Incorporated, USA
 SOURCE: PCT Int. Appl., 185 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 233
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
WO 2002097114	A2	20021205	WO 2002-US16840	20020529
WO 2002097114	A3	20030508		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,			

UA, UG, US, UZ, VN, YU, ZA, ZM, ZW
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
 KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB,
 GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA,
 GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 9851819 A1 19980611 AU 1998-51819 19980112

AU 729657 B2 20010208

AU 9939188 A1 19990916 AU 1999-39188 19990713

AU 769175 B2 20040115 AU 2000-56616 20000911

WO 2002097114 A2 20021205 WO 2002-XA16840 20020529

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
 CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
 GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
 LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
 PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,
 UA, UG, US, UZ, VN, YU, ZA, ZM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH,
 CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR,
 BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

EP 1390472 A2 20040225 EP 2002-734572 20020529

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

US 2003153521 A1 20030814 US 2002-238700 20020910

WO 2003070912 A2 20030828 WO 2003-US5045 20030220

WO 2003070912 A3 20041111

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
 CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
 GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
 LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
 PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ,
 UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
 KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,
 FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF,
 BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2003219818 A1 20030909 AU 2003-219818 20030220

EP 1501853 A2 20050202 EP 2003-716093 20030220

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK

JP 2005517437 T2 20050616 JP 2003-569805 20030220

US 2005080031 A1 20050414 US 2003-724270 20031126

US 2005176024 A1 20050811 US 2004-923354 20040820

US 2005288242 A1 20051229 US 2004-923476 20040820

PRIORITY APPLN. INFO.:

US 2001-294140P P 20010529

US 2001-296249P P 20010606

US 2001-318471P P 20010910

AU 1995-26422 A3 19950518

US 1996-623891 A 19960325

AU 1996-76662 A3 19961025

US 2001-292217P P 20010518

US 2001-306883P P 20010720

US 2001-916466 A 20010725

US 2001-311865P P 20010813

US 2002-358580P P 20020220

US 2002-362016P P 20020306

US 2002-363124P P 20020311

WO 2002-US15876 A2 20020520

US 2002-157580 A2 20020529

WO 2002-US16840 A 20020529

US 2002-163552 A1 20020606

US 2002-386782P P 20020606

US 2002-393924P P 20020703

US 2002-406784P P 20020829

US 2002-408378P P 20020905

US 2002-409293P	P 20020909
US 2002-238700	A2 20020910
US 2002-251117	A1 20020919
US 2002-277494	A1 20021021
US 2003-440129P	P 20030115
WO 2003-US5028	A2 20030220
WO 2003-US5045	W 20030220
WO 2003-US5346	A2 20030220
US 2003-417012	B2 20030416
US 2003-422704	B2 20030424
US 2003-427160	A2 20030430
US 2003-444853	A2 20030523
US 2003-652791	A2 20030829
US 2003-693059	A2 20031023
US 2003-720448	A2 20031124
US 2003-724270	A2 20031126
US 2003-727780	A2 20031203
US 2004-757803	A2 20040114
US 2004-543480P	P 20040210
US 2004-780447	A2 20040213
US 2004-826966	A2 20040416
WO 2004-US13456	A2 20040430
WO 2004-US16390	A2 20040524

AB The present invention relates to nucleic acid mols., including enzymic nucleic acid mols., such as DNAzymes (e.g. DNA enzymes, catalytic DNA), siRNA, aptamers, and antisense that modulate the expression of Ras genes such as K-Ras, H-Ras, and/or N-Ras, HIV genes such as HIV-1, and HER2 (c-erbB2) gene. The sequence of human HER2 or Ras genes were screened for accessible sites using a computer-folding algorithm. Regions of the RNA that do not form secondary folding structure and contain potential enzymic nucleic acid mol. and/or antisense binding/cleavage sites are identified. The sequences of c-Ki-ras, c-Ha-ras, HER2, and HIV RNA binding/cleavage sites are provided, as are the sequences of designed enzymic nucleic acid mols., e.g., hammerhead ribozymes, DNAzymes, inozymes, zinzymes, and Amberzymes. [This abstract record is one of two records for this document necessitated by the large number of index entries required to fully index the document and publication system constraints.]

L5 ANSWER 9 OF 14 CA COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 137:104780 CA
 TITLE: Method for inhibiting the expression of a target gene
 INVENTOR(S): Kreutzer, Roland; Limmer, Stephan; Rost, Sylvia;
 Hadwiger, Philipp
 PATENT ASSIGNEE(S): Ribopharma Ag, Germany
 SOURCE: PCT Int. Appl., 203 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 11
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	---	-----	-----	-----
WO 2002055693	A2	20020718	WO 2002-EP152	20020109 <--
WO 2002055693	A3	20030717		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA,			

GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10100586	C1	20020411	DE 2001-10100586	20010109 <--
DE 10160151	A1	20030626	DE 2001-10160151	20011207
CA 2432350	AA	20020718	CA 2002-2432350	20020109 <--
EP 1352061	A2	20031015	EP 2002-710786	20020109
EP 1352061	B1	20060531		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2004519458	T2	20040702	JP 2002-556740	20020109
CN 1630724	A	20050622	CN 2002-803557	20020109
DE 10230996	A1	20030717	DE 2002-10230996	20020709
DE 10230997	A1	20030717	DE 2002-10230997	20020709
WO 2003033700	A1	20030424	WO 2002-EP11432	20021011
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
WO 2003035868	A1	20030501	WO 2002-EP11968	20021025
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
WO 2003035869	A1	20030501	WO 2002-EP11969	20021025
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
WO 2003035870	A1	20030501	WO 2002-EP11970	20021025
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
WO 2003035882	A1	20030501	WO 2002-EP11971	20021025
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,				

KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
WO 2003035083	A1	20030501	WO 2002-EP11972	20021025
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
WO 2003035876	A1	20030501	WO 2002-EP11973	20021025
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1438405	A1	20040721	EP 2002-779511	20021025
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
EP 1438406	A1	20040721	EP 2002-785312	20021025
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
EP 1438409	A1	20040721	EP 2002-785313	20021025
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
EP 1438056	A1	20040721	EP 2002-801917	20021025
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
JP 2005506385	T2	20050303	JP 2003-538370	20021025
JP 2005506087	T2	20050303	JP 2003-538376	20021025
JP 2005512976	T2	20050512	JP 2003-537650	20021025
US 2004091457	A1	20040513	US 2003-384512	20030307
US 2004121348	A1	20040624	US 2003-384434	20030307
US 2004175703	A1	20040909	US 2003-384339	20030307
US 2005074757	A1	20050407	US 2003-384463	20030307
US 2004038921	A1	20040226	US 2003-382634	20030811
US 2004126791	A1	20040701	US 2003-666458	20030919
PRIORITY APPLN. INFO.:				
			DE 2001-10100586	A 20010109
			DE 2001-10155280	A 20011026
			DE 2001-10158411	A 20011129
			DE 2001-10160151	A 20011207
			DE 2001-10150187	A 20011012
			DE 2001-10163098	A 20011220
			WO 2002-EP151	A 20020109
			WO 2002-EP152	W 20020109
			DE 2002-10230996	A 20020709
			DE 2002-10230997	A 20020709
			DE 2002-10235620	A 20020802
			DE 2002-10235621	A 20020802
			WO 2002-EP11432	A2 20021011
			WO 2002-EP11968	A2 20021025
			WO 2002-EP11969	W 20021025
			WO 2002-EP11970	W 20021025
			WO 2002-EP11971	A2 20021025
			WO 2002-EP11972	W 20021025

AB A method of inhibiting the expression of a specific gene using double-stranded oligoribonucleotides (**dsRNA**) capable of hybridizing with the gene is described. The **dsRNA** has a double-stranded core that is no more than 49 base-pairs long and has one or two 1-4 nucleotide single-stranded ends. Inhibition of expression of green fluorescent protein reporter gene in vitro and in vivo (3T3 and HeLa-S3 cells) by double-stranded RNA was demonstrated. A 21-nucleotide oligoribonucleotide, to which the complementary oligoribonucleotide was covalently attached via a linker, was shown to be an effective inhibitor. Inhibition of expression of the genes for epidermal growth factor receptors in the glioblastoma cell line U87MG is demonstrated.

L5 ANSWER 10 OF 14 CA COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 137:104740 CA
 TITLE: Targeted inhibition of gene expression with double-stranded RNA with single-stranded ends
 INVENTOR(S): Kreutzer, Roland; Limmer, Stefan; Rost, Sylvia; Hadwiger, Philipp
 PATENT ASSIGNEE(S): Ribopharma A.-G., Germany
 SOURCE: Ger. Offen., 100 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10100588	A1	20020718	DE 2001-10100588	20010109 <--
PRIORITY APPLN. INFO.:			DE 2001-10100588	20010109

AB A method of inhibiting the expression of a specific gene using double-stranded oligoribonucleotides (**dsRNA**) capable of hybridizing with the gene is described. The **dsRNA** has a double-stranded core that is no more than 49 base-pairs long and has 1-4 nucleotide single-stranded ends. The RNA may be delivered as single-stranded RNAs that hybridize to create the duplex, e.g. as nucleotide-resistant phosphorothioate oligonucleotides. The RNA may be made up of three oligonucleotides with the overlaps between the individual pairs of oligonucleotides being no more than 25 base pairs. This structure ensures that the ends are in the same orientation with respect to the target sequence. Inhibition of expression of green fluorescent protein reporter gene in vitro and in vivo (3T3 cells) by double-stranded RNA was demonstrated. A 21-nucleotide oligoribonucleotide, to which the complementary oligoribonucleotide was covalently attached via a linker, was shown to be an effective inhibitor.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 11 OF 14 CA COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 137:380906 CA
 TITLE: Inhibition of gene expression with double-stranded oligoribonucleotides in interferon-treated cells
 INVENTOR(S): Kreutzer, Roland; Limmer, Stefan; Rost, Sylvia; Hadwiger, Philipp
 PATENT ASSIGNEE(S): Ribopharma AG, Germany
 SOURCE: Ger., 98 pp.
 CODEN: GWXXAW
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
------------	------	------	-----------------	------

DE 10100587 C1 20021121 DE 2001-10100587 20010109 <--
PRIORITY APPLN. INFO.: DE 2001-10100587 20010109
AB The invention concerns a method for inhibiting expression of a target gene
in a cell comprising introducing at least one double-stranded
oligoribonucleotide (dsRNA) of no more than 49 bp in a
sufficient quantity for the inhibition of the expression of the target
gene. Preferably, at least one end of the dsRNA contains
non-Watson-Crick-paired nucleotides, or consists of 1-4 unpaired
nucleotides. One strand, or a portion of one strand, of the dsRNA
is complementary to the target gene. The cell is treated with interferon
before induction of the dsRNA.
REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 12 OF 14 CA COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 136:305087 CA

TITLE: Targeted inhibition of gene expression with
double-stranded RNA with single-stranded ends

INVENTOR(S): Kreutzer, Roland; Limmer, Stefan; Rost, Sylvia;
Hadwiger, Philipp

PATENT ASSIGNEE(S): Ribopharma A.-G., Germany

SOURCE: Ger., 104 pp.

CODEN: GWXXAW

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 11

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10100586	C1	20020411	DE 2001-10100586	20010109 <--
CA 2432341	AA	20020718	CA 2002-2432341	20020109 <--
CA 2432350	AA	20020718	CA 2002-2432350	20020109 <--
WO 2002055692	A2	20020718	WO 2002-EP151	20020109 <--
WO 2002055692	A3	20030612		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
WO 2002055693	A2	20020718	WO 2002-EP152	20020109 <--
WO 2002055693	A3	20030717		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
EP 1349927	A2	20031008	EP 2002-702247	20020109
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			
EP 1352061	A2	20031015	EP 2002-710786	20020109
EP 1352061	B1	20060531		
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,			

IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2004519457	T2	20040702	JP 2002-556739	20020109
JP 2004519458	T2	20040702	JP 2002-556740	20020109
CN 1630724	A	20050622	CN 2002-803557	20020109
CN 1650010	A	20050803	CN 2002-803555	20020109
US 2004001811	A1	20040101	US 2003-384260	20030307
US 2004175703	A1	20040909	US 2003-384339	20030307
ZA 2003004127	A	20040511	ZA 2003-4127	20030528
ZA 2003004500	A	20031118	ZA 2003-4500	20030610
US 2005176667	A1	20050811	US 2004-941663	20040915
US 2006084621	A1	20060420	US 2005-229183	20050915

PRIORITY APPLN. INFO.:

DE 2001-10100586	A	20010109
DE 2001-10155280	A	20011026
DE 2001-10158411	A	20011129
DE 2001-10160151	A	20011207
WO 2002-EP151	W	20020109
WO 2002-EP152	W	20020109
US 2003-384260	A2	20030307
US 2004-941663	A2	20040915

AB A method of inhibiting the expression of a specific gene using double-stranded oligoribonucleotides (**dsRNA**) capable of hybridizing with the gene is described. The **dsRNA** has a double-stranded core that is no more than 49 base-pairs long and has 1-4 nucleotide single-stranded ends. Inhibition of expression of green fluorescent protein reporter gene in vitro and in vivo (3T3 cells) by double-stranded RNA was demonstrated. A 21-nucleotide oligoribonucleotide, to which the complementary oligoribonucleotide was covalently attached via a linker, was shown to be an effective inhibitor.

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 13 OF 14 EMBASE COPYRIGHT (c) 2006 Elsevier B.V. All rights reserved on STN

ACCESSION NUMBER: 2003064850 EMBASE

TITLE: The effectiveness of double-stranded short inhibitory RNAs (**siRNAs**) may depend on the method of transfection.

AUTHOR: Walters D.K.; Jelinek D.F.

CORPORATE SOURCE: Dr. D.F. Jelinek, 200 First Street, S. W., Rochester, MN 55905, United States. jelinek.diane@mayo.edu

SOURCE: Antisense and Nucleic Acid Drug Development, (2002) Vol. 12, No. 6, pp. 411-418. .
Refs: 17

ISSN: 1087-2906 CODEN: ANADF5

COUNTRY: United States

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 016 Cancer
022 Human Genetics
037 Drug Literature Index

LANGUAGE: English

SUMMARY LANGUAGE: English

ENTRY DATE: Entered STN: 20 Feb 2003

Last Updated on STN: 20 Feb 2003

AB RNA interference (**RNAi**) is a recently described powerful experimental tool that can cause sequence-specific gene silencing, thereby facilitating functional analysis of gene function. Consequently, we became interested in using **RNAi** to determine the function of aberrantly expressed ErbB3 in the KAS-6/1 human myeloma cell line. Despite the wealth of information available on the use of **RNAi**, **dsRNA** target design, and the transfection of **dsRNA** in vitro, little information is available for transfecting **dsRNA** into nonadherent cells from any species. In the present study, we report that gene silencing of ErbB3 was not observed in myeloma cells when **dsRNA** targeting ErbB3 was introduced using conventional

transfection agents and protocols that have proved successful for several adherent cell lines. Silencing of ErbB3, however, was observed in T47D cells, an adherent breast carcinoma cell line, using the same transfection methods, indicating that our target sequence was functional for gene silencing of ErbB3. Interestingly, ErbB3 was silenced in myeloma cells when the dsRNA target was introduced by electroporation. Thus, our studies illustrate the striking dependence of dsRNA-mediated gene silencing in some cells on the methods of dsRNA transfection.

L5 ANSWER 14 OF 14 MEDLINE on STN DUPLICATE 2
 ACCESSION NUMBER: 91347216 MEDLINE
 DOCUMENT NUMBER: PubMed ID: 1715233
 TITLE: A distinct kinase modulates the expression of IFN-inducible genes in human breast cancer cells.
 AUTHOR: Tiwari R K; Osborne M P
 CORPORATE SOURCE: Breast Cancer Research Laboratory, Memorial Sloan Kettering Cancer Center, New York, N.Y. 10021.
 CONTRACT NUMBER: P-01 CA29502 (NCI)
 SOURCE: Cancer letters, (1991 Jul 26) Vol. 59, No. 1, pp. 31-6.
 Journal code: 7600053. ISSN: 0304-3835.
 PUB. COUNTRY: Netherlands
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
 LANGUAGE: English
 FILE SEGMENT: Priority Journals
 ENTRY MONTH: 199110
 ENTRY DATE: Entered STN: 20 Oct 1991
 Last Updated on STN: 3 Mar 2000
 Entered Medline: 2 Oct 1991

AB The biological activity of interferons (IFNs) is presumed to be mediated through the induction of a number of IFN-inducible genes. IFN-mediated gene induction was examined in two human breast cancer cell lines, MCF-7 and BT-20. Both these cell lines were remarkably responsive to IFNs as a number of IFN inducible genes were rapidly induced. We examined the sensitivity of these genes towards 2-aminopurine (2-AP), a known inhibitor of double-stranded (ds) RNA dependent protein kinase. 2-AP has also been reported to inhibit the induction of IFN-beta 1 in response to dsRNA and the genes c-myc and c-fos in fibroblasts. In both MCF-7 and BT-20 cell lines, 2-AP selectively inhibited the IFN-induced gene responses. 2-AP did not affect levels of the oncogene, HER-2/neu. Tamoxifen (TAM), an antiestrogenic drug, which is known to inhibit the activity of protein kinase C at high concentrations, did not affect IFN-mediated gene induction. Our data is consistent with the concept that the 2-AP sensitive kinase is primarily associated with the IFN-induced gene systems and that positive and negative growth regulating stimuli in breast cancer may require the participation of distinct kinases.